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PATENT

Docket No.: KUD-008

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of :  
Inventor(s): Kenji FUJIWARA et al. : Confirmation No. N/A  
U.S. Patent Application No. 10/588,516 : Group Art Unit: N/A  
Filed: August 4, 2006 : Examiner: N/A  
For: IPM ELECTRONIC ROTATING MACHINE

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In accordance with the provisions of 37 C.F.R. 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the documents listed on the attached form PTO-1449. It is respectfully requested that the documents be expressly considered during the prosecution of this application, and that the documents be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement is being filed within three months of the U.S. filing date OR before the mailing date of a first Office Action on the merits. No certification or fee is required.

Respectfully submitted,

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## Reasons:

Based on the invention disclosed in the following publications distributed in Japan or foreign country, or available in public through a telecommunication line before the present application was filed, the present invention according to the following claims for the application is considered that it could have been easily invented before the filing date by a skilled person who has a general knowledge in the art the invention belongs. Therefore, the invention is not patentable pursuant to the provisions set forth in Article 29, Section 2 of the Patent Law.

- NOTE - (see the cited references list for the cited references)

- Claims 1 and 2
- Cited references 1 and 2
- Remarks

the cited reference 1 is directed to an invention of a stator provided with a stator winding wound with a concentrated winding and IPM motor provided with a rotor having a plural of permanent magnets therein. It is disclosed that the number of a stator magnetic pole is 12 poles and the number of a rotator magnet is 14 poles (refer to [0031]). When the stator magnetic pole is M and the rotator magnet is P, it is disclosed that  $M:P=6n:6n+2$  (n is a positive integer)).

In claim 1 according to the present application, the distance d between the magnetic pole surface facing the side surface of the magnet and center of the rotor is set as  $d \geq r - D/10$  ( $D=2\pi r/n^2$ , r: radius of the rotor). In the invention described in the cited reference 1, the magnet is disposed around the outer perimeter of the rotator, but there is no description of magnet location to meet the condition described in claim 1. Therefore, the invention according to claim 1 and the invention disclosed in the cited reference 1 are different in this regard.

However, it is obvious that the permanent magnet in the cited reference 1 is provided around the outer perimeter. A determination of providing the permanent magnet how close to the outer perimeter can be properly decided by a skilled person in consideration of an affection of magnetic flux and strength (for example, see the cited reference 2). Also, even if the distance d between the magnetic pole surface facing the side surface of the magnet and center of the rotor is restricted to  $d \geq r - D/10$  ( $D=2\pi r/n^2$ , r: radius of the rotor), it is not deemed that an extra remarkable result can be obtained.

- claims 3 through 5
- Cited references 1 through 4

•Remarks

It is a well known art that IPM motor is used as a driving source for an electrical automobile and electrical vehicle (for example, see the cited references 3 and 4).

- The cited references list -

- 1, TOKKAI No. H09-285088
- 2, TOKKAI No. H11-275784
- 3, TOKKAI No. H09-201065
- 4, TOKKAI No. H08-182105

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